

IN THE CLAIMS

1. (Currently Amended) A method for ring-trip detection in a line card, comprising:
using an analog-to-digital converter for processing voice signals;
~~using the analog-to-digital converter for DC feed control;~~
receiving a ringing control signal;
transmitting a ringing signal to a subscriber line in response to the ringing control signal;
receiving a portion of the ringing signal from the subscriber line;
converting the portion of the ringing signal to a digital signal using the digital-to-analog
converter; and
providing a ring-trip indication in response to the digital signal.
2. (Original) The method of claim 1, wherein the ringing signal comprises an AC
signal.
3. (Original) The method of claim 1, further including terminating the ringing signal
in response to the ring-trip indication.
4. – 6. Cancelled.
7. (Currently Amended) An apparatus, comprising:
first circuitry comprising an analog-to-digital converter that is employed for processing of
voice signals and for DC feed control;

a ringing generator capable of providing a ringing signal to a subscriber line in response to receiving a ringing control signal;

second circuitry capable of receiving at least a portion of the ringing signal from the subscriber line and delivering the portion of the ringing signal to the analog-to-digital converter of the first circuitry, wherein the analog-to-digital converter converts the portion of the ringing signal to a digital signal; and

ring-trip detection logic capable of providing a ring-trip indication in response to the digital signal.

8. (Original) The apparatus of claim 7, further including third circuitry capable of terminating the ringing signal in response to the ring-trip indication.

9. (Previously presented) An apparatus, comprising:

a feedback path having an input and output terminal, the feedback path including an analog-to-digital converter for processing voice signals;

a switch capable of coupling the input and output terminal of the feedback path in response to receiving a control signal; and

a ringing generator capable of providing a ringing signal to a subscriber line in response to the control signal.

10. (Previously presented) The apparatus of claim 9, further including circuitry capable of:

receiving at least a portion of the transmitted ringing signal from the subscriber line; and

delivering the portion of the received ringing signal to the input terminal of the feedback path.

11. (Previously presented) The apparatus of claim 10, wherein the analog-to-digital converter of the feedback path converts the received ringing signal to a digital signal.

12. (Original) The apparatus of claim 11, further including ring-trip detection logic, wherein the ring-trip detection logic generates a ring-trip detection indication in response to the digital signal.

13. (Currently Amended) A line card, comprising:

a subscriber line interface circuit capable of:

receiving a voice signal from the subscriber line;

delivering a ringing signal to the subscriber line; and

receiving at least a portion of the transmitted signal from the subscriber line; and

a digital signal processor capable of:

processing the voice signal using an analog-to-digital converter;

~~using the analog-to-digital converter for DC feed control;~~

converting the portion of the ringing signal to a digital signal using the analog-to-digital converter; and

providing a ring-trip indication in response to the digital signal.

14. (Original) The line card of claim 13, wherein the subscriber line integrated circuit is a voltage subscriber line interface circuit.

15. (Original) The line card of claim 14, wherein the subscriber line interface circuit is capable of receiving a data signal in a frequency band above voice signals.

16. (Previously presented) The line card of claim 14, wherein the digital signal processor provides a ring-trip indication based on a power of the digital signal over a selected interval.

17. (Original) The line card of claim 14, wherein the ringing signal is an AC signal.

18. (Previously presented) An apparatus for ring-trip detection, the apparatus comprising:

means for using an analog-to-digital converter for processing voice signals;

means for using the analog-to-digital converter for DC feed control;

means for receiving a ringing control signal;

means for transmitting a ringing signal to a subscriber line in response to the ringing control signal;

means for receiving a portion of the ringing signal from the subscriber line;

means for converting the portion of the ringing signal to a digital signal using the analog-to-digital converter; and

means for providing a ring-trip indication in response to the digital signal.

19. (Previously presented) A method, comprising:
processing a signal received over a subscriber line by one or more components in a first
path, the first path having an input terminal and an output terminal;
receiving a control signal;
coupling the input and the output terminal of the first path in response to receiving the
control signal; and
providing a ringing signal to the subscriber line responsive to the control signal.

20. (Previously presented) The method of claim 19, wherein the first path is a voice
path, and wherein processing the signal comprises processing a voice signal received over the
subscriber line.

21. (Previously presented) The method of claim 19, wherein the first path is a loop
supervision path, and wherein processing the signal comprises processing a DC signal received
over the subscriber line.

22. (Previously presented) An apparatus, comprising:
means for processing a signal received over a subscriber line by one or more components
in a first path, the first path having an input terminal and an output terminal;
means for receiving a control signal;
means for coupling the input and the output terminal of the first path in response to
receiving the control signal; and

means for providing a ringing signal to the subscriber line responsive to the control signal.

23. (New) The method of claim 1, further comprising using the analog-to-digital converter for DC control.

24. (New) The line card of claim 13, wherein the digital signal processor further uses the analog-to-digital converter for DC feed control.